This application has been carefully reviewed in light of the Office Action dated May 23, 2003 (Paper No. 6). Claims 1 to 16 are in the application, of which Claims 1, 4, 5, 6, 10, 13 and 15 are independent. Claims 1, 2 and 4 to 9 are being amended, and Claims 15 and 16 are being added, herein. Reconsideration and further examination are respectfully requested.

By the Office Action, Claims 1 to 14 have been rejected under 35 U.S.C. § 103(a). More particularly, Claims 1 to 3 and 8 to 14 have been rejected over U.S. Patent 6,092,078 (Adolfsson) and U.S. Patent 5,832,488 (Eberhardt), and Claims 4 to 7 have been rejected over Adolfsson.

The present invention generally concerns facilitating data searches such that search filters that reduce a search space in a search operation, as well as database searches and data item selections, are accessible using a programmable smartcard. In a conventional approach, a database searcher enters information via a computer system's user interface to establish a search filter, or the user users a computer system that was previously configured to include the search filter. According to the present invention, a searcher is able to use a programmable smart card to access filtering functions using a user interface provided by the smart card. More particularly and according to the present invention, a customizable data filter and interface (PCFI), which comprises a smartcard and user selectable icons, is programmable, and when accessed by the searcher is configured to provide one or more software filter functions for use in reducing a search space in a search operation, wherein

the searcher is able to perform one or more database searches and data item selections using the PCFI.

By virtue of this arrangement, a database searcher is no longer tied to a particular computing system, since the searcher is able to easily transport search functionality, such as search filters, via the smartcard, and to perform database searches and data item selections via the user selectable icons accessible via the smartcard.

Turning to the specific language of the claims, Claim 1 is directed to a customisable data filter system adapted to reduce a dimension of a searchable data base and to perform one or more of a database search and a data item selection, in relation to a correspondingly reduced search space. The system comprises a Portable Customisable data Filter and Interface (PCFI), a reader means, and a data processing means. The PCFI comprises a programmable smartcard adapted to store at least a data filter parameter, and further adapted to provide a user interface by means of spatially distributed user selectable icons made visible on a surface of the smartcard. The reader means is adapted to interface with the PCFI, and further adapted to discriminate an icon on an inserted smartcard selected by a user. The data processing means, which is adapted to interface with the reader means, is (a) responsive to the data filter parameter and detected icon selection, and is (b) adapted to establish the correspondingly reduced search space dependent upon the filter parameter, wherein said one or more of the database search and the data item selection is performed using the user selectable icons.

The applied art, namely Adolfsson and Eberhardt, is not seen to disclose or to suggest the features of the present invention, particularly with respect to a smartcard which stores a data filter parameter and provides user selectable icons visible on the

- 10 -

surface of the smartcard, wherein a data processing means which is responsive to a data filter parameter and a detected icon selected from the user selectable icons establishes a reduced search space dependent on the filter parameter, and wherein one or more of a database search and a data item selection is performed.

Adolfsson is seen to describe a mechanism by which a network server is used to collect data from, as well as configure and monitor, peripheral devices, such as a camera, a card reader, and a measuring transducer, connected to a network. (See Adolfsson, Abstract.) The server, or NEIOD 3106, maintains the data about the networked peripheral in a table 3214. (See Adolfsson, col. 5, lines 15 to 20.) As discussed at col. 6, lines 5 to 9 of Adolfsson, networked peripherals can be monitored via a user interface, which is not seen to in any way disclose an interface with user selectable icons visible on the surface of a smartcard for use in performing a data base search and data item selection. Referring to Figure 11, Adolfsson is seen to describe an approach for reading a smartcard by monitoring a smartcard reader so that when a smartcard is inserted into the reader, the information from the smartcard reader can be transferred to the server. (See Adolfsson, col. 8, lines 8 to 51.) The network server maintains a database, item 418 of Figure 12 of Adolfsson, of the data that is collected from the networked devices. (See Adolfsson, col. 10, lines 15 to 25.)

It is conceded in the Office Action, at page 7, that Adolfsson fails to disclose a smartcard which stores a data filter parameter, which is used to establish a reduced search space dependent upon the filter parameter. In view of the above discussion, Adolfsson is also not seen to disclose or even to suggest the remaining features of the present invention.

Eberhardt is not seen to remedy the deficiencies noted with respect to Adolfsson. Eberhardt is seen to describe an approach to database searching, like the convention approach described above, in which a searcher uses a user interface provided by a personal computer to input a search filter so as to perform a reduced search. Referring to Figures 1 and 7, as well as the description found at col. 16, lines 10 to 14 of Eberhardt, a database search is performed using computer 2 and a search window 66 displayed on computer 2. While Eberhardt describes a feature of limiting the number of records searched, nothing in Eberhardt is seen to disclose or even to suggest a smartcard which stores a data filter parameter, which is used to establish a reduced search space dependent upon the filter parameter.

Nothing in Eberhardt is seen to disclose or even to suggest at least the features of the present invention, particularly with respect to a smartcard which stores a data filter parameter and provides user selectable icons visible on the surface of the smartcard, wherein a data processing means which is responsive to a data filter parameter and a detected icon selected from the user selectable icons establishes a reduced search space dependent on the filter parameter, and wherein one or more of a database search and a data item selection is performed.

Therefore, for at least the foregoing reasons, Claim 1 is believed to be in condition for allowance. Further, Applicants submit that Claims 10 and 13 are believed to be in condition for allowance for at least the same reasons.

Claim 4 defines a method of customising a Portable Customisable data Filter and Interface (PCFI) adapted to reduce a database search space, using a Portable Customisable User Interface (PCUI), wherein the PCFI and the PCUI respectively

- 12 -

comprise a programmable smartcard providing a user interface including spatially distributed user selectable icons made visible on a surface of the smartcard, wherein the user selectable icons are operable using a smartcard reader to which the smartcard is connected. In an interfacing step of the method, a customizing system is interfaced to the PCFI and the PCUI using respective said smartcard readers. According to the method, the PCFI is programmed by means of user instructions input to the customizing system using the user interface of the PCUI.

Adolfsson is not seen to disclose or to suggest the features of programming a PCFI, which comprises a programmable smartcard, adapted to reduce a database search space, using a PCUI, which comprises a user interface including spatially distributed user selectable icons made visible on a surface of the smartcard, wherein the user selectable icons are operable using a smartcard reader to which the smartcard is connected, the PCFI being programmed by means of user instructions input using the user interface of the PCUI.

Reference is made to the above discussion of Adolfsson. In particular and as is discussed more fully above, Adolfsson is seen to describe a system for gathering information about peripherals, such as a smartcard reader, at a server, which maintains a searchable database of the gathered information. Nothing in Adolfsson is seen to describe programming a programmable smartcard adapted to reduce a database search by means of user instructions input using a user interface provided by the smartcard.

Accordingly, Claim 4 is believed to be in condition for allowance. Further, Applicants submit that Claims 5 and 6 are believed to be in condition for allowance for at least the same reasons.

New Claim 15 has the features, among others, of reducing a database search space using a PCFI, which comprises a programmable smartcard operable using a smartcard reader to which the smartcard is connected, and a base data filter parameter stored in memory of the smartcard, wherein a search space of a database is reduced according to the base data filter parameter when the PCFI is coupled to a database using the reader.

Neither Adolfsson nor Eberhardt, when taken alone or in any permissible combination, is seen to disclose or even to suggest the feature of Claim 15. Accordingly, Claim 15 is believed to be in condition for allowance, and Claim 16, which depends from Claim 16, is believed to be in condition for allowance for at least the same reasons.

The remaining claims are each dependent from the independent claims discussed above and are therefore believed patentable for the same reasons. Because each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

In view of the foregoing, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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- 15 -